

GPU Nuclear Corporation

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Writer's Direct Dial Number:

C321-93-2072

February 26, 1993

U.S. Nuclear Regulatory Commission Att: Document Control Desk Washington, DC 20555

Dear Sir:

Subject:

Oyster Creek Nuclear Generating Station

Docket No. 50-219

Semi-Annual Radiological Release Report

Attached is a copy of the Oyster Creek Effluent Release Report for the period covering July 1992 through December, 1992. This submittal is made in accordance with our Operating License and Technical Specifications.

As allowed by the recent change to 10 CFR 50.36a(2), we will begin submitting this report annually upon receipt of a Technical Specification Change for which we plan to submit the request to you shortly.

If you have any questions, please do not hesitate to contact Brenda DeMerchant, Oyster Creek Licensing Engineer at 609-971-4642.

Very truly yours

John J. Barton

ice President & Director

Oyster Creek

JJB/BDEM/jc Attachment cc: Chief

: Chief

Bureau of Nuclear Engineering

NJ Dept. of Environmental Protection & Energy

CN 411

Trenton, NJ 08623

Senior NRC Resident Inspector Oyster Creek NRC Project Manager Administrator, Region 1

bcc: Page 2

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GPU Nuclear Corporation is a subsidiary of General Public Utilities Corporation

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bcc:

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Ira Jolles, Esq. Vice President & General Counsel General Public Utilities, Inc. Parsippany, NJ 07054

EXECUTIVE SUMMARY, 1992-2 SEMI-ANNUAL RELEASE REPORT

The Semiannual Effluent Release Report is submitted to the United States Nuclear Regulatory Commission (NRC) every six months in accordance with the Oyster Creek Nuclear Generating Station (OCNGS) Technical Specifications (Tech Specs). It Summarizes the radioactive gaseous and liquid effluents released and solid radioactive wastes shipped from the OCNGS. In addition, meteorological data are presented in joint frequency tables per atmospheric stability class.

Attached Tables show that doses based on quantities of radioactive material released were all less than 1% of the limits allowed by the OCNGS Tech Specs. Limits for the release of radioactive effluents at OCNGS are based upon offsite exposure to members of the general public. These limits were compared to dose projections calculated using the methodology in the Offsite Dose Calculation Manual (ODCM). There were no liquid releases from OCNGS during the period. Solid waste shipments were similar to those of nuclear plants of comparable type, age and size. Concrete was used for solidification material during the reporting period. The report summarizes the fact that all effluents released were within federal regulatory requirements of the OCNGS Technical Specifications.

A summary of Oyster Creek's meteorological data is provided in tabular form. Also included is a description of changes made t the Offsite Dose Calculation Manual (ODCM) and the Process Control Plan (PCP) during the reporting period. Effluent monitoring instruments that were inoperative as per Technical Specification 3.15 for the reporting period are also discussed.

Maximum Offsite Dose Due to Radionuclides in Effluents July-Dec. 1992

Tech. Spec. 3.6.J.1 3.6.J.1 3.6.L.1 3.6.K.1 3.6.M.1 3.6.K.1 Liquid Dose Air Dose (Gas) Whole (Thyroid) MB Organ Beta Gamma Body Organ Skin mrem mrem mrem mrem mrem mrem mrem

JULY-DEC. Total 0.00E+00 0.00E+00 1.45E-03 2.74E-03 2.21E-03 2.13E-02 2.36E-03

20 Tech. Spec. Limit 3 10 10 500 15 3000

Fraction of Limit 0.00E+00 0.00E+00 7.25E-05 2.74E-04 4.42E-06 1.42E-03 7.85E-07

Tech. Spec. Ref. 3.6.N.1 3.6.N.1

Whole (thyroid)

Body Organ mrem

mrem 1992 total 6.32E-03 2.47E-01

Tech. Spec. Limit 25 75

Fraction of 2.53E-04 3.30E-03

Annual Limit

Effluent and Waste Disposal Supplemental Information

FACILITY: Oyster Creek Nuclear Generating Station

LICENSEE: Owner - Jersey Central Power and Light Company

Operator - GPU Nuclear Corporation

1.) Regulatory Limits

a.) Fission and Activation Gases

Technical Specification 3.6.E.1

The gross radioactivity in noble gases discharged from the main condenser air ejector shall not exceed a 0.21/E Ci/sec after the holdup line ,where E is the average gamma energy (Mev per atomic transformation).

Technical Specification 3.6.K.1

The dose equivalent rate outside of the EXCLUSION AREA due to radioactive noble gas in gaseous effluent shall not exceed 500 mrem/year to the total body or 3000 mrem/year to the skin.

Technical Specification 3.6.L.1

The air dose outside of the EXCLUSION AREA due to noble gas released in gaseous effluent shall not exceed:

5 mrad/calendar quarter due to gamma radiation, 10 mrad/calendar quarter due to beta radiation, 10 mrad/calendar year due to gamma radiation, or 20 mrad/calendar year due to beta radiation

Technical Specification 3.6.N.1

The annual dose to a MEMBER OF THE PUBLIC due to radiation and radioactive material in effluents from the OCNGS outside of the EXCLUSION AREA shall not exceed 75 mrem to his thyroid or 25 mrem to his total body or to any other organ.

b. Iodines and Particulates

Technical Specification 3.6.K.2

The dose equivalent rate outside of the EXCLUSION AREA due to H-3, I-131, I-133, and to radioactive material in particulates having half-lives of 8 days or more in gaseous effluents shall not exceed 1500 mrem/year to any body organ when the dose rate due to H-3, Sr-89, Sr-90, and alpha-emitting radionuclides is averaged over no more than 3 months and the dose rate due to other radionuclides is averaged over no more than 31 days.

Technical Specification 3.6.M.1

The dose to a MEMBER OF THE PUBLIC from iodine-131, iodine-133, and from radionuclides in particulate form having half-lives of 8 days or more in gaseous effluents, outside of the EXCLUSION AREA shall not exceed 7.5 mrem to any body organ per calendar quarter or 15 mrem to any body organ per calendar year.

c. Liquid Effluents

Technical Specification 3.6.I.1

The concentration of radioactive material, other than noble gases, in liquid effluent in the discharge canal at the Route 9 bridge shall not exceed the concentrations specified in 10 CFR Part 20, Appendix B, Table II, Column 2.

Technical Specification 3.6.I.2

The concentration of noble gases dissolved or entrained in liquid effluent in the discharge canal at the Route 9 bridge shall not exceed 2X10⁻⁴ microcuries/milliliter.

Technical Specification 3.6.J.2

The dose to a MEMBER OF THE PUBLIC due to radioactive material in liquid effluents beyond the outside of the EXCLUSION AREA shall not exceed:

1.5 mrem to the total body during any calendar quarter, 5 mrem to any body organ during any calendar quarter, 3 mrem to the total body during any calendar year, or 10 mrem to any body organ during any calendar year.

2.) Maximum Permissible Concentrations (MPC)

a. Fission and Activation Gases:

Appendix B, Table II, Column 2 of 10 CFR 20

b. Iodines and Particulates:

Appendix B, Table II, Column 2 of 10 CFR 20

c. Liquid Effluents:

Appendix B, Table II, Column 2 of 10 CFR 20, except for dissolved or entrained noble gases where the limit is 2×10^{-4} uCi/ml

3.) Measurements and Approximation of Total Radioactivity

a. Fission and Activation Gases:

1. Stack

The continuous recording of gross activity and the incorporation of isotopic data obtained from a weekly grab sample analyzed using gamma spectroscopy.

2. Augmented Offgas (AOG) Vent

The continuous recording of gross activity and the incorporation of isotopic data obtained from a weekly grab sample analyzed using gamma spectroscopy.

3. Turbine Building Stack and Feedpump Room Vent

The continuous recording of gross activity and the incorporation of isotopic data obtained from a monthly grab sample analyzed using gamma spectroscopy.

b. Iodines

1. Stack

Filters are changed twice weekly and analyzed using gamma spectroscopy.

2. AOG Vent

Filters are changed twice weekly and analyzed using gamma spectroscopy.

3. Turbine Building Stack and Feedpump Room Vent

Filters are changed twice weekly and analyzed using gamma spectroscopy.

c. Particulates

1. Stack

Filters are changed twice weekly and analyzed using a low background beta counter and gamma spectroscopy.

2. AOG Vent

Filters are changed twice weekly and analyzed using gamma spectroscopy.

3. Turbine Building Stack and Feedpump Room Vent

Filters are changed twice weekly and analyzed using gamma spectroscopy.

d. Liquid Effluents

Analysis per batch release using gamma spectrometry with a germanium detector, a low background beta counter, and a liquid scintillation counter.

OYSTER CREEK NUCLEAR GENERATING STATION GASEOUS EFFLUENT ELEVATED RELEASES Third Quarter 1992

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FISSION GASES
                              QUANTITY(ci)
              KR85M
                              9.81E+00
              KR87
                              7.21E+00
              KR88
                              1.02E+01
              XE133
                              5.35E+01
              XE135
                              1.66E+01
Total Fission Gases Released: 9.73E+01 ci
Gamma EBar:
                              0.347 Mev
Average Rate of Release:
                              1.22E+01 uCi/sec
             IODINES
                              QUANTITY(ci)
              I131
                              4.34E-03
              I132
                              8.22E-03
                              1.54E-02
              I133
              I134
                             7.72E-03
              I135
                             1.48E-02
Total Iodines Released:
                             5.04E-02 ci
Average Rate of Release:
                              6.35E-03 uCi/sec
          PARTICULATES
                              QUANTITY(ci)
              NA24
                              2.44E-03
              CR51
                              9.98E-05
              MN54
                              1.69E-05
              CO58
                              5.34E-06
              C060
                              1.11E-04
              RB89
                              4.51E-01
              SR89
                              6.73E-04
              SR90
                              3.66E-06
                              2.76E-03
              SR91
                              4.60E-04
              SR92
                             1.74E-01
              Y91M
              Y92
                             1.76E-04
              TC99M
                              2.58E-03
              RU106
                              8.58E-05
                              1.06E-05
              TE132
              CS137
                              3.91E-06
              CS138
                              1.92E+00
              BA139
                             7.93E-01
              BA140
                             4.58E-04
              LA140
                             5.20E-04
              GROSSA
                              1.15E-05
Total Particulates Released: 3.35E+00 ci
Average Rate of Release:
                             4.22E-01 uCi/sec
          RADIONUCLIDE
                              QUANTITY(ci)
                              2.80E+00
              H3
Avg. Rate of Release for H3: 3.52E-01 uCi/sec
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^{*} Quantity of noble gases derived from gross activity.

OYSTER CREEK NUCLEAR GENERATING STATION GASEOUS EFFLUENT GROUND-LEVEL RELEASES Third Quarter 1992

FISSION GASES	QUANTITY	(ci)
KR85M	5.64E-04	•	•
KR87	5.64E-04		
KR88	5.64E-04		
XE133	1.22E-02		
XE135M	8.32E-03		
XE135	6.24E-03		
XE138	1.28E-03		

Total Fission Gases Released: 2.97E-02 ci

Average Rate of Release: 3.74E-03 uCi/sec

IODINES	QUANTITY(ci)
I131	4.16E-05
I133	3.77E-04

Total Iodines Released: 4.18E-04 ci Average Rate of Release: 5.26E-05 uCi/sec

PARTICULATES	QUANTITY(ci)	
NA24	6.88E-06	
CR51	3.19E-06	
SR89	8.67E-06	
Y91M	1.08E-03	
TC99M	2.81E-05	
CS138	9.00E-03	
BA139	7.27E-03	
CE141	6.94E-07	
CE143	2.21E-06	

Total Particulates Released: 1.74E-02 ci Average Rate of Release: 2.19E-03 uCi/sec

RADIONUCLIDE	QUANTITY(ci)
Н3	0.00E+00

Avg. Rate of Release for H3: 0.00E+00 uCi/sec

* Quantity of noble gases derived from gross activity.

OYSTER CREEK NUCLEAR GENERATING STATION GASEOUS EFFLUENT ELEVATED RELEASES Fourth Quarter 1992

FISSION GASES QUANTITY (ci)
XE133 4.51E+01
XE135 6.18E+01

Total Fission Gases Released: 1.07E+02 ci Gamma EBar: 0.162 Mev

Average Rate of Release: 1.34E+01 uCi/sec

 IODINES
 QUANTITY(ci)

 1131
 1.91E-03

 1132
 5.57E-03

 1133
 9.36E-03

 1134
 7.65E-03

 1135
 1.03E-02

Total Iodines Released: 3.48E-02 ci Average Rate of Release: 4.38E-03 uCi/sec

> PARTICULATES QUANTITY(ci) NA24 8.63E-04 CR51 8.47E-04 MN54 1.01E-05 CO60 1.32E-04 RB89 1.99E-01 SR89 4.09E-04 SR90 3.79E-06 2.99E-03 SR91 SR92 1.12E-03 1.29E-01 Y91M TC99M 4.46E-03 TE132 4.72E-06 CS138 1.57E+00 5.73E-01 BA139 BA140 3.09E-04 LA140 1.34E-04 GROSSA 3.50E-05

Total Particulates Released: 2.48E+00 ci Average Rate of Release: 3.12E-01 uCi/sec

RADIONUCLIDE QUANTITY(ci)
H3 3.01E+00

Avg. Rate of Release for H3: 3.79E-01 uCi/sec

^{*} Quantity of noble gases derived from gross activity.

OYSTER CREEK NUCLEAR GENERATING STATION GASEOUS EFFLUENT GROUND-LEVEL RELEASES Fourth Quarter 1992

FISSION GASES	QUANTITY	(ci)
KR85M	4.71E-03		
KR87	4.71E-03		
KR88	4.71E-03		
XE133	1.02E-01		
XE135M	6.94E-02		
XE135	1.20E-01		
XE138	1.07E-02		

Total Fission Gases Released: 3.16E-01 ci

Average Rate of Release: 3.97E-02 uCi/sec

IODINES	QUANTITY	(ci)
I131	6.44E-05		
I133	1.12E-04		

Total Iodines Released: 1.76E-04 ci Average Rate of Release: 2.21E-05 uCi/sec

PARTICULATES	QUANTITY	(ci)
CR51	4.99E-04		
MN54	5.85E-06		
CO60	5.35E-05		
SR89	1.10E-05		
SR90	1.16E-05		
Y91M	9.44E-03		
TC99M	8.81E-06		
RU103	2.90E-06		
CS138	5.69E-03		
BA139	4.77E-03		
CE141	4.32E-07		

Total Particulates Released: 2.05E-02 ci

Average Rate of Release: 2.58E-03 uCi/sec

RADIONUCLIDE QUANTITY (ci)
H3 0.00E+00

Avg. Rate of Release for H3: 0.00E+00 uCi/sec

* Quantity of noble gases derived from gross activity.

OYSTER CREEK NUCLEAR GENERATING STATION LIQUID EFFLUENT RELEASES Third and Fourth Quarters 1992

Oyster Creek Nuclear Generating Station policy is to strive for zero liquid discharge of radioactive material. As a result, there were no liquid continuous or batch releases from OCNGS in the second half of 1992.

Solid Waste Shipped Offsite for Disposal During Period From 07/1/92 to 12/31/92

Report Date 2/1/93

WASTE STREAM: DRY ACTIVE WASTE

WASTE CLASS	VOLUME		CURIES SHIPPED	% ERROR (Ci)
CEASS	Ft ³	M ³	SHIFFED	ı
А	180.1	5.1	8.80 E-01	± 25%
В	0	0	0	± 25%
С	0	0	0	± 25%
All	180.1	5.1	8.80 E-01	± 25%

WASTE STREAM: DRY ACTIVE WASTE

Waste <u>Class</u>	Nuclide <u>Name</u>	Percent <u>Abundance</u>	<u>Curies</u>
A	Fe-55 Co-60 Cs-137 Mn-54 Cs-134 Cr-51 H-3 C-14 Cm-242 Pu-241 I-129 Tc-99 Sr-90 Nb-94 Ni-63 Ni-59	50.673% 34.426% 9.123% 2.500% 1.852% 1.318% .105% .002% 0 0 0 0	4.46 E-1 3.03 E-1 8.03 E-2 2.20 E-2 1.63 E-2 1.16 E-2 9.28 E-4 1.79 E-5 0 0 0 0
	55	₹	•

WASTE STREAM: DRY ACTIVE WASTE

Waste <u>Class</u>	Nuclide <u>Name</u>	Percent <u>Abundance</u>	<u>Curies</u>
All	Fe-55 Co-60 Cs-137 Mn-54 Cs-134 Cr-51 H-3 C-14 Cm-242 Pu-241 I-129 Tc-99 Sr-90 Nb-94 Ni-63	50.673% 34.426% 9.123% 2.500% 1.852% 1.318% 0.105% 0.002% 0 0 0	4.46 E-1 3.03 E-1 8.03 E-2 2.20 E-2 1.63 E-2 1.16 E-2 9.28 E-4 1.79 E-5 0 0 0
	Ni-59	0	0

Solid Waste Shipped Offsite for Disposal During Period From 07/1/92 to 12/31/92

Report Date 2/1/93

WASTE STREAM: OTHER WASTE

WASTE CLASS	VOLUME		CURIES SHIPPED	% ERROR (Ci)
CEASS	Ft ³	M ³	SHIFFLD	
Α	0	0	0	± 25%
В	0	0	0	± 25%
С	0	0	0	± 25%
A11	0	0	0	± 25%

Solid Waste Shipped Offsite for Disposal During Period 07/01/92 to 12/31/92

Report Date 2/1/93

WASTE STREAM: RESINS, FILTERS, & EVAP. BOTTOMS

Waste Class	Volume		Curies Shipped	% Error (Ci)
Class	Ft ³	M ³	Sirrpped	
А	3812.1	107.9	3.28 E+2	± 25%
В	788.2	22.3	1.21 E+2	± 25%
С	0	0	0	± 25%
A11	4600.3	130.2	4.49 E+2	± 25%

WASTE STREAM: RESINS, FILTERS, & EVAP. BOTTOMS

Waste <u>Class</u>	Nuclide <u>Name</u>	Percent <u>Abundance</u>	<u>Curies</u>
A	Co-60 Fe-55 Mn-54 Cr-51 Cs-137 Co-58 Cs-134 Ni-63 Pu-241 Sr-90 Ni-59 C-14 H-3 Cm-242 I-129 Tc-99 Nb-94	43.360% 32.508% 8.807% 5.600% 4.016% 2.313% 1.124% 0.335% 0.032% 0.027% 0.016% 0.009% 0.002% 0	1.42 E+2 1.07 E+2 2.89 E+1 1.84 E0 1.32 E+1 7.58 E0 3.69 E0 1.10 E0 1.04 E-1 8.86 E-2 5.33 E-2 2.85 E-2 7.94 E-3 5.14 E-4 0
	.,,,	•	-

WASTE STREAM: RESINS, FILTERS, & EVAP. BOTTOMS

Waste <u>Class</u>	Nuclide <u>Name</u>	Percent <u>Abundance</u>	<u>Curies</u>
В	Cs-137 Fe-55 Co-60 Cs-134 Mn-54 Sr-90 Sr-89 Ni-63 Pu-241 C-14 Ni-59 H-3 Cm-242 I-129 Tc-99 Nb-94	38.251% 26.096% 24.175% 3.469% 2.723% 1.939% 1.499% 0.248% 0.160% 0.046% 0.0016% 0.003% 0.001% 0	4.63 E+1 3.16 E+1 2.92 E+1 4.19 E0 3.29 E0 2.34 E0 1.81 E0 3.00 E-1 1.93 E-2 5.61 E-2 1.90 E-2 3.97 E-3 6.11 E-4 0 0
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WASTE STREAM: RESINS, FILTERS, & EVAP. BOTTOMS

Waste <u>Class</u>	Nuclide <u>Name</u>	Percent <u>Abundance</u>	<u>Curies</u>
All	Co-60 Fe-55 Cs-137 Mn-54 Cr-51 Co-58 Cs-134 Sr-90 Ni-63 Pu-241 C-14 Ni-59 H-3 Cm-242 I-129 Tc-99	38.192% 30.781% 13.239% 7.168% 4.260% 1.770% 1.756% 0.542% 0.312% 0.066% 0.019% 0.016% 0.003% 0	1.71 E+2 1.38 E+2 5.94 E+1 3.22 E+1 1.91 E+1 7.95 E0 7.88 E0 2.43 E0 1.40 E0 2.97 E-1 8.46 E-2 7.23 E-2 1.19 E-2 1.13 E-3 0
	Nb-94	0	0

Solid Waste Shipped Offsite for Disposal During Period From 07/1/92 to 12/31/92

Report Date 2/1/93

WASTE STREAM: IRRADIATED HARDWARE

WASTE CLASS	VOL	UME	CURIES % ERROR (C SHIPPED	
CLASS	Ft ³	M ³		
Α	728.4	20.61	7.53	± 25%
В	0	0	0	± 25%
С	78.6	2.22	23990	± 25%
A11	807	22.83	23997.53	± 25%

WASTE STREAM: IRRADIATED HARDWARE

Waste <u>Class</u>	Nuclide <u>Name</u>	Percent <u>Abundance</u>	<u>Curies</u>
A	Co-60 Fe-55 Co-58 Mn-54 Ni-63 Fe-59 Cr-51 Cs-137 Pu-241 H-3 C-14 Tc-99 I-129 Sr-90 Ce-144 Pu-238 Pu-239/40 Am-241 Cm-242	45.2 43.5 5.4 3.5 1.3 .9 .1 .1 .1 0 0 0 0	3.40 3.28 .41 .26 .10 .07 .008 .008 .008 .008 0
	Cm-243/44	0	0

WASTE STREAM: IRRADIATED HARDWARE

Waste <u>Class</u>	Nuclide <u>Name</u>	Percent <u>Abundance</u>	<u>Curies</u>
С	Fe-55	47.7%	1.17 E4
	Co-60	43.9%	1.05 E4
	Ni-63	5.2%	1.20 E3
	Mn - 54	2.9%	6.35 E2
	Cr-51	0.1%	1.13 E1
	Ni-59	0	7.75 EO
	Nb-94	0	2.05 E-2
	H-3	0	2.24 E-2
	C-14	0	1.96 EO
	Tc-99	Ö	1.13 E-2
	I-129	N.P.	N.P.
	Np-237	0	1.20 E-7
	Pu-238	0	7.81 E-4
	Pu-239/40	0	1.71 E-6
	Pu-241	0	2.14 E-4
	Pu-242	0	1.38 E-9
	Am-241	Ō	4.50 E-7
	Am-243	Ö	1.41 E-8
	Cm-242	Ŏ	4.00 E-5
	Cm-243/44	Ö	4.60 E-6

Solid Waste Shipped Offsite for Disposal During Period 07/01/92 to 12/31/92

Report Date 2/1/93

WASTE STREAM: FILTERS (FROM SPENT FUEL POOL PROJECT)

Waste Class	Vo1	ume	Curies Shipped	% Error (Ci)
Class	Ft ³	M ³	Зптррец	
А	0	0	0	± 25%
В	361	10.21	2.94 E2	± 25%
С	0	0	0	± 25%
A11	361	10.21	2.94 E2	± 25%

NOTE: One shipment also contained Irradiated Hardware (Velocity Limiters from Control Rod Blades).

WASTE STREAM: FILTERS (FROM SPENT FUEL POOL PROJECT)

Waste	Nuclide	Percent	<u>Curies</u>
<u>Class</u>	<u>Name</u>	<u>Abundance</u>	
В	Co-60	44.60	1.31 E2
	Fe-55	46.94	1.38 E2
	Mn-54	4.10	1.20 E1
	Cs-137	1.57	4.62 E0
	Cs-134	.60	1.77 E0
	Co-58	.40	1.15 E0
	Ni-63	1.62	4.75 E0
	C-14 Sr-90 Ce-144 Sr-89 Pu-238 Pu-239/40 Pu-241 Am-241 Cm-242 Cm-243/44	0 0 0 0 0 0 0 0 0	4.35 E-2 1.51 E-2 8.85 E-3 1.47 E-2 1.50 E-4 9.67 E-5 6.98 E-3 1.34 E-4 1.70 E-4 1.67 E-4 4.02 E-5

Solid Waste Shipped Offsite for Disposal During Period From 07/1/92 to 12/31/92

Report Date 2/1/93

WASTE STREAM: SUM OF ALL CATEGORIES

WASTE CLASS	VOLUME		CURIES SHIPPED	% ERROR (Ci)	
CLASS	Ft ³	M ³	SHIFFED		
А	4720.6	133.61	336.53	± 25%	
В	1149.2	32.51	415.00	± 25%	
С	78.6	2.22	23990.00	± 25%	
A11	5948.4	168.34	24741.53	± 25%	

NOTE: Does not include waste shipped to S.E.G.

WASTE STREAM: SUM OF ALL EXCEPT D.A.W. TO S.E.G.

Waste <u>Class</u>	Nuclide <u>Name</u>	Percent <u>Abundance</u>	<u>Curies</u>
A	Co-60 Fe-55 Mn-54 Cr-51 Cs-137 Co-58 Cs-134 Ni-637 Pu-241 Sr-90 Ni-59 C-14 H-3 Cm-242 I-129 Tc-99 Nb-94 Fe-59	44.03% 33.40% 8.87% 5.62% 4.04% 2.43% 1.12% 0.36% 0.03% 0.03% 0.02% 0.01% 0	1.45 E+2 1.10 E+2 2.92 E+1 1.85 E+1 1.33 E+1 7.99 3.70 1.20 1.12 E-1 8.86 E-2 5.33 E-2 2.85 E-2 8.87 E-3 5.14 E-4 0 0 0 7.00 E-2
	16-33	0.20%	3.293 E2

WASTE STREAM: SUM OF ALL WASTE STREAMS

Waste	Nuclide	Percent	0
<u>Class</u>	<u>Name</u>	<u>Abundance</u>	<u>Curies</u>
В	CS-137	12.30%	5.09 E1
	Fe-55	41.20%	1.70 E2
	Co-60	38.70%	1.60 E2
	Cs-134	1.44%	5.96
	Mn-54	3.70%	1.53 E1
	Sr-90	0.57%	2.36
•	Sr-89	0.44%	1.82
	Ni-63	1.22%	5.05
	Pu-241	0.05%	2.00 E-1
	C-14	0.02%	9.96 E-2
	Ni-59	0	1.90 E-2
	H-3	0	4.01 E-3
	Cm-242	0	7.81 E-4
	Co-58	0	1.15
	Ce-144	0	8.85 E-3
	Pu-238	0	1.50 E-4
	Pu-239/40	0	9.67 E-5
	Am-241	0	1.34 E-4
	Cm-243/44	0	1.67 E-4
	Tc-99	0	0
	Nb-94	0	0
	I-129	0	0

WASTE STREAM: SUM OF ALL WASTE STREAMS

Waste <u>Class</u>	Nuclide <u>Name</u>	Percent <u>Abundance</u>	<u>Curies</u>
C	Fe-55 Co-60 Ni-63 Mn-54 Cr-51 Ni-59 Nb-94 H-3 C-14 Tc-99 I-129 Np-237 Pu-238 Pu-239/40 Pu-241 Pu-242	47.7% 43.9% 5.2% 2.9% 0.1% 0 0 0 0 0 0 0 0	1.17 E4 1.05 E4 1.20 E3 6.35 E2 1.13 E1 7.75 E0 2.05 E-2 2.24 E-2 1.96 E0 1.13 E-2 0 1.20 E-7 7.81 E-4 1.71 E-6 2.14 E-4 1.38 E-9
	Am-241 Am-243	0 0	4.50 E-7 1.41 E-8
	Cm-242	0	4.00 E-5
	Cm-243/44	0	4.60 E-6

WASTE STREAM: SUM OF ALL WASTE STREAMS

Waste <u>Class</u>	Nuclide Name	Percent	Cunico
<u>C1033</u>	<u>Name</u>	<u>Abundance</u>	<u>Curies</u>
A11	Fe-55	48.310%	1.198 E4
	Co-60	43.550%	1.080 E4
	Ni-63	4.880%	1.210 E3
	Mn-54	2.740%	6.800 E2
	Cs-137	0.260%	6.420 E1
	Cr-51	0.120%	2.980 E1
	Co-58	0.040%	9.140
	Cs-134	0.040%	9.660
	Sr-90	0.010%	2.450
	C-14	0.008%	2.090
	Pu-241	0.001%	3.120 E-1
	Ni-59	0.030%	7.820
	Nb-94	0	2.050 E-2
	H-3	0	3.530 E-2
	Tc-99	0	1.130 E-2
	I-129	0	0
	Np-237	0	1.200 E-7
	Pu-238	0	9.310 E-4
	Pu-239/40	0	9.840 E-5
	Pu-242 [°]	0	0
	Am-241	0	1.350 E-4
	Cm-242	0	1.340 E-3
	Fe-59	0	7.000 E-2
	Cm-243/44	0	1.720 E-4

Regulatory Guide 1.21 Report Solid Waste Shipped Offsite for Disposal 7/1/92 to 12/31/92

<u>Waste Type</u>	<u>Cubic Meters</u>	<u>Curies</u>	<pre>% Error (CI)</pre>
SEG	331.45 m ³	2.71	±25% Class A-u

Volume buried by S.E.G. = 23.93 m^3 - Beatty, NV Activity buried by S.E.G. = 1.93 Curies

<u>Waste Type</u>	<u>Nuclide</u>	<u>% Abundance</u>	<u>Curies</u>
Waste Shipped	Fe- 55	50.70%	1.37
to SEG	Co-60	34.40%	. 93
	Cs-137	9.08%	. 25
	Mn-54	2.49%	.07
	Cs-134	1.84%	.05
	Cr-51	1.31%	.04
	H-3	0%	0
	C-14	0%	0
	Tc-99	0%	0
	I-129	0%	0
	Pu-241	0%	0
	Cm-242	0%	0
	Ni-63	0%	Ö
	Sr-90	0%	0

Number of <u>Shipments</u>	Mode of <u>Transportation</u>	<u>Destination</u>
7	Truck	Oak Ridge, TN

Solid Waste Shipped Offsite for Disposal 7/1/92 to 12/31/92

<u>Waste Type</u>	<u>Cubic Meters</u>	<u>Curies</u>	% Error (CI)
Metals	78 14 m ³	1.32	±25% Class A-u

Volume buried by Alaron = 9.10 m^3 - Barnwell, SC Activity buried by Alaron = 1.143 Ci

<u>Waste Type</u>	<u>Nuclide</u>	<u>% Abundance</u>	<u>Curies</u>
Metals Shipped	Fe-55	50.70%	.670
to Alaron '	Co-60	34.40%	.450
	Cs-137	9.08%	.120
	Mn-54	2.49%	.033
	Cs-134	1.84%	.024
	Cr-51	1.31%	.017
	H-3	0%	0
	C-14	0%	0
	Tc-99	0%	0
	I-129	0%	0
	Pu-241	0%	0
	Cm-242	0%	0
	Ni-63	0%	0
	Sr-90	0%	0

Number of <u>Shipments</u>	Mode of <u>Transportation</u>	<u>Destination</u>
4	Truck	Wampum, PA

SOLID WASTE DISPOSITION SUMMARY

NUMBER OF SHIPMENTS	MODE OF TRANSPORTATION	<u>DESTINATION</u>
35	Truck	Barnwell, SC
0	Truck	Richland, WA
0	Truck	Beatty, NV
7	Truck	Oak Ridge, TN
4	Truck	Wampum, PA

Period of Record 01/01/92 @0000 TO 12/31/92 @2300 Stability Class:A HOURS AT WIND SPEED AND DIRECTION

HOOKS AT	MIND 9	LEED WAD						
				WIND SP	EED			
SECTOR	WINDS							
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	0	20	19	0	0	0	39
NNE	SSW	2	17	11	0	0	0	30
NE	SW	0	29	44	6	0	0	79
ENE	WSW	1	36	88	6	0	0	131
E	W	0	54	75	1	0	0	130
ESE	WNW	0	54	37	0	0	0	91
SE	NW	1	24	78	1	0	0	104
SSE	NNW	0	12	60	16	0	0	88
S	N	1	13	51	70	1	0	136
SSW	NNE	1	7	22	20	0	0	50
SW	NE	1	14	23	11	0	0	49
WSW	ENE	0	22	45	12	0	0	79
W	\mathbf{E}	1	22	56	16	0	0	95
WNW	ESE	0	20	101	26	0	0	147
NW	SE	1	16	111	45	1	0	174
NNW	SSE	0	24	51	11	0	0	86
TOTAL		9	384	872	241	2	0	1508

Period of Record 01/01/92 @0000 TO 12/31/92 @2300 Stability Class:B HOURS AT WIND SPEED AND DIRECTION

1100100 111	" 1110	OI LLD .	21110	DIKECI					
					WIND SI	PEED			
SECTOR	WINDS	3							
TO	FROM	1	-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S		1	14	5	0	0	0	20
NNE	SSW		0	6	2	0	0	0	8
NE	SW		0	20	13	2	0	0	35
ENE	wsw		0	19	18	2	0	0	39
E	W		0	23	9	0	0	0	32
ESE	WNW		0	10	8	0	0	0	18
SE	NW		0	13	10	0	0	0	23
SSE	NNW		1	9	· 24	1	0	0	35
S	N		0	11	28	7	1	0	47
SSW	NNE		0	13	16	4	0	0	33
SW	NE		0	11	12	1	0	0	24
WSW	ENE		1	16	12	2	0	0	31
W	\mathbf{E}		0	12	16	6	0	0	34
WNW	ESE		2	10	31	12	0	0	55
NW	SE		1	25	26	8	1	0	61
NNW	SSE		2	28	8	1	1	0	40
TOTAL			8	240	238	46	3	0	535

Period of Record 01/01/92 @0000 TO 12/31/92 @2300 Stability Class:C HOURS AT WIND SPEED AND DIRECTION

			1	NIND SP	EED			
SECTOR	WINDS							
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	0	10	0	0	0	0	10
NNE	SSW	1	7	0	0	0	0	8
NE	SW	0	12	4	0	0	0	16
ENE	WSW	1	15	7	0	0	0	23
E	W	0	12	3	0	0	0	15
ESE	WNW	0	9	6	0	0	0	15
SE	NW	0	9	7	0	0	0	16
SSE	NNW	1	7	6	1	0	0	15
S	N	0	7	9	4	0	0	20
SSW	NNE	1	2	11	8	1	0	23
SW	NE	1	6	0	2	0	0	9
wsw	ENE	1	7	1	0	0	0	9
W	E	0	12	12	5	0	0	29
WNW	ESE	1	7	5	2	0	0	15
NW	SE	0	9	12	2	1	0	24
NNW	SSE	0	10	6	1	0	0	17
TOTAL		7	141	89	25	2	0	264

Period of Record 01/01/92 @0000 TO 12/31/92 @2300 Stability Class:D HOURS AT WIND SPEED AND DIRECTION

				WIND SP	EED			
SECTOR	WINDS							
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	20	62	24	5	0	0	111
NNE	SSW	24	77	45	4	0	0	150
NE	SW	29	125	102	17	0	0	273
ENE	WSW	17	103	83	15	2	0	220
E	W	10	65	58	7	1	0	141
ESE	WNW	4	62	38	10	1	0	115
SE	NW	8	65	31	2	0	0	106
SSE	NNW	10	39	39	17	2	0	107
S	N	11	66	93	21	4	2	197
SSW	NNE	11	64	90	20	1	1	187
SW	NE	7	37	34	4	1	0	83
wsw	ENE	14	46	45	3	0	0	108
W	E	10	44	25	19	1	0	99
WNW	ESE	12	49	68	21	0	0	150
NW	SE	18	58	62	30	1	0	169
NNW	SSE	14	66	30	2	0	0	112
TOTAL		219	1028	867	197	14	3	2328

Period of Record 01/01/92 @0000 TO 12/31/92 @2300 Stability Class:E HOURS AT WIND SPEED AND DIRECTION

			Ţ	WIND SP	EED			
SECTOR	WINDS							
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	26	36	7	0	0	0	69
NNE	SSW	29	30	9	0	0	0	68
NE	SW	25	40	8	4	0	0	77
ENE	WSW	20	32	7	4	2	0	65
E	W	22	55	9	0	6	3	95
ESE	WNW	15	21	14	9	0	0	59
SE	NW	17	34	12	4	1	0	68
SSE	NNW	20	30	18	9	1	0	78
S	N	32	56	32	5	1	1	127
SSW	NNE	26	107	68	20	3	0	224
SW	NE	36	144	52	2	0	0	234
WSW	ENE	56	154	29	1	0	0	240
W	E	41	138	8	3	0	0	190
WNW	ESE	43	135	82	6	0	0	266
NW	SE	40	130	42	3	0	0	215
NNW	SSE	37	100	16	0	0	0	153
TOTAL		485	1242	413	70	14	4	2228

Period of Record 01/01/92 @0000 TO 12/31/92 @2300 Stability Class:F HOURS AT WIND SPEED AND DIRECTION

				WIND SP	PEED			
SECTOR	WINDS	}						
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	12	7	0	0	0	0	19
NNE	SSW	16	0	0	0	0	0	16
NE	SW	5	4	0	0	0	0	9
ENE	WSW	2	4	0	0	0	0	6
\mathbf{E}	W	2	2	0	0	0	0	4
ESE	WNW	2	3	0	0	0	0	5
SE	NW	5	1	0	0	0	0	6
SSE	NNW	9	4	0	0	0	0	13
S	N	13	6	2	0	0	0	21
SSW	NNE	25	16	0	0	0	0	41
SW	NE	18	62	5	0	0	0	85
WSW	ENE	56	82	2	0	0	0	140
W	E	52	53	0	0	0	0	105
WNW	ESE	29	39	2	1	0	0	71
NW	SE	34	29	1	0	0	0	64
NNW	SSE	44	28	0	1	0	0	73
TOTAL		324	340	12	2	0	0	678

Period of Record 01/01/92 @0000 TO 12/31/92 @2300 Stability Class:G HOURS AT WIND SPEED AND DIRECTION

			7	WIND SP	EED			
SECTOR	WINDS							
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	20	3	0	0	0	0	23
NNE	SSW	7	1	0	0	0	0	8
NE	SW	6	1	0	0	0	0	7
ENE	WSW	5	0	0	0	0	0	5
E	W	4	1	0	0	0	0	5
ESE	WNW	4	1	0	0	0	0	5
SE	NW	3	2	0	0	0	0	5
SSE	NNW	9	4	0	0	0	0	13
S	N	15	4	0	0	0	0	19
SSW	NNE	24	7	0	0	0	0	31
SW	NE	59	28	0	0	0	0	87
WSW	ENE	202	100	0	0	0	0	302
W	E	248	80	1	1	0	0	330
WNW	ESE	109	13	0	1	0	0	123
NW	SE	123	19	0	0	0	0	142
NNW	SSE	57	41	0	0	0	0	98
TOTAL		895	305	1	2	0	0	1203

Period of Record 01/01/92 @0000 TO 12/31/92 @2300 Stability Class:ALL HOURS AT WIND SPEED AND DIRECTION WIND SPEED

			•	12110 01				
SECTOR	WINDS							
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	79	152	55	5	0	0	291
NNE	SSW	79	138	67	4	0	0	288
NE	SW	65	231	171	29	0	0	496
ENE	WSW	46	209	203	27	4	0	489
E	W	38	212	154	8	7	3	422
ESE	WNW	25	160	103	19	1	0	308
SE	NW	34	148	138	7	1	0	328
SSE	NNW	50	105	147	44	3	0	349
S	N	72	163	215	107	7	3	567
SSW	NNE	88	216	207	72	5	1	589
SW	NE	122	302	126	20	1	0	571
WSW	ENE	330	427	134	18	0	0	909
W	E	352	361	118	50	1	0	882
WNW	ESE	196	273	289	69	0	0	827
NW	SE	217	286	254	88	4	0	849
NNW	SSE	154	297	111	16	1	0	579
TOTAL		1947	3680	2492	583	35	7	8744
HOURS	OF MISSING	/INVALID	DATA:	40				

Period of Record 01/01/92 @0000 TO 12/31/92 @2300 Stability Class: A HOURS AT WIND SPEED AND DIRECTION

SECTOR	WINDS							
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	0	1	0	0	0	0	1
NNE	SSW	0	1	0	0	0	0	1
NE	SW	0	1	0	5	3	0	9
ENE	wsw	0	0	3	20	7	1	31
E	W	0	1	6	7	1	0	15
ESE	WNW	0	1	4	0	0	0	5
SE	NW	0	0	4	0	0	0	4
SSE	NNW	0	0	0	3	2	0	5
S	N	0	0	0	5	8	1	14
SSW	NNE	0	0	2	1	0	0	3
SW	NE	0	1	0	0	0	0	1
WSW	ENE	0	1	1	5	2	4	13
W	E	0	0	1	1	6	2	10
WNW	ESE	0	0	1	2	16	13	32
NW	SE	0	0	1	11	16	9	37
NNW	SSE	0	0	1	3	6	1	11
TOTAL		0	7	24	63	67	31	192

WIND SPEED

Period of Record 01/01/92 @0000 TO 12/31/92 @2300 Stability Class: B HOURS AT WIND SPEED AND DIRECTION

WIND SPEED

				MIND DE	لانانا			
SECTOR	WINDS							
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	0	0	4	2	1	0	7
NNE	SSW	0	0	0	1	2	0	3
NE	SW	0	1	5	11	5	2	24
ENE	WSW	0	0	13	11	3	1	28
E	W	0	1	17	7	0	0	25
ESE	WNW	0	1	11	0	0	0	12
SE	NW	0	0	14	5	0	0	19
SSE	NNW	0	0	4	14	0	0	18
S	N	0	1	2	11	11	2	27
SSW	NNE	0	1	1	2	3	3	10
SW	NE	0	0	4	2	1	0	7
WSW	ENE	0	2	2	3	9	4	20
W	E	0	0	2	5	9	3	19
WNW	ESE	0	0	5	11	7	3	26
NW	SE	0	0	2	9	17	14	42
NNW	SSE	0	0	2	8	4	1	15
TOTAL		0	7	88	102	72	33	302

Period of Record 01/01/92 @0000 TO 12/31/92 @2300 Stability Class: C HOURS AT WIND SPEED AND DIRECTION

WIND SPEED

			•	TIND DI				
SECTOR	WINDS							
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	0	1	2	7	1	0	11
NNE	SSW	0	1	3	1	0	0	5
NE	SW	0	2	12	10	3	3	30
ENE	WSW	0	1	23	12	4	2	42
E	W	0	11	20	6	0	0	37
ESE	WNW	0	3	23	1	0	0	27
SE	NW	0	0	14	4	0	0	18
SSE	NNW	0	2	11	13	0	0	26
S	N	0	0	11	34	13	2	60
SSW	NNE	0	2	5	14	4	1	26
SW	NE	0	1	4	10	5	2	22
WSW	ENE	0	4	14	17	7	3	45
W	E	1	2	16	13	10	4	46
WNW	ESE	0	1	12	21	20	13	67
NW	SE	0	0	14	23	19	16	72
NNW	SSE	0	1	12	13	4	2	32
TOTAL		1	32	196	199	90	48	566

Period of Record 01/01/92 @0000 TO 12/31/92 @2300 Stability Class: D
HOURS AT WIND SPEED AND DIRECTION

WIND SPEED

				MIND SE	Lill			
SECTOR	WINDS							
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	2	29	52	43	15	6	147
NNE	SSW	5	40	67	61	8	5	186
NE	SW	4	30	101	85	72	54	346
ENE	WSW	5	30	83	107	65	52	342
E	W	4	31	89	86	31	9	250
ESE	WNW	6	40	86	32	16	16	196
SE	NW	4	28	64	26	10	3	135
SSE	NNW	6	24	81	47	13	12	183
S	N	2	17	79	98	28	17	241
SSW	NNE	4	23	51	149	55	33	315
SW	NE	3	18	45	34	24	4	128
WSW	ENE	6	16	49	51	31	9	162
W	E	2	25	42	51	23	39	182
WNW	ESE	2	14	48	75	79	70	288
NW	SE	1	28	57	91	86	93	356
NNW	SSE	3	18	50	67	31	13	182
TOTAL		59	411	1044	1103	587	435	3639

Period of Record 01/01/92 @0000 TO 12/31/92 @2300 Stability Class: E HOURS AT WIND SPEED AND DIRECTION

WIND SPEED

			"TI'D DI				
WINDS							
FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
S	3	14	20	52	15	3	107
SSW	3	11	22	20	0	0	56
SW	6	11	24	28	7	8	84
WSW	8	6	19	23	13	20	89
W	2	7	18	20	15	14	76
WNW	5	16	7	22	11	5	66
NW	5	7	19	24	15	11	81
NNW	1	10	22	18	31	20	102
N	3	22	40	39	26	12	142
NNE	5	10	45	114	74	32	280
NE	0	2	28	73	81	24	208
ENE	1	11	30	63	73	14	192
${f E}$	2	6	22	69	37	5	141
ESE	2	5	27	83	92	11	220
SE	0	8	24	98	97	$\bar{1}\bar{1}$	238
SSE	2	3	21			11	151
	48	149	388	799	648	201	2233
	S SSW SW WSW WNW NW NNE NE ENE ESE SE	FROM 1-3 S 3 SSW 3 SW 6 WSW 8 W 2 WNW 5 NW 5 NNW 5 NNW 5 NNE 0 ENE 0 ENE 1 E 2 ESE 2 SE 0 SSE 2	FROM 1-3 4-7 S 3 14 SSW 3 11 SW 6 11 WSW 8 6 W 2 7 WNW 5 16 NW 5 7 NNW 1 10 N 3 22 NNE 5 10 NE 0 2 ENE 1 11 E 2 6 ESE 2 5 SE 0 8 SSE 2 3	WINDS FROM 1-3 4-7 8-12 S 3 14 20 SSW 3 11 22 SW 6 11 24 WSW 8 6 19 W 2 7 18 WNW 5 16 7 NW 5 7 19 NNW 1 10 22 N 3 22 40 NNE 5 10 45 NE 0 2 28 ENE 1 11 30 E 2 6 22 ESE 2 5 27 SE 0 8 24 SSE 2 3 21	WINDS FROM 1-3 4-7 8-12 13-18 S 3 14 20 52 SSW 3 11 22 20 SW 6 11 24 28 WSW 8 6 19 23 W 2 7 18 20 WNW 5 16 7 22 NW 5 7 19 24 NNW 1 10 22 18 N 3 22 40 39 NNE 5 10 45 114 NE 0 2 28 73 ENE 1 11 30 63 E 2 6 22 69 ESE 2 5 27 83 SE 0 8 24 98 SSE 0 8 24 98 SSE 2 3 21 53	WINDS FROM 1-3 4-7 8-12 13-18 19-24 S 3 14 20 52 15 SSW 3 11 22 20 0 SW 6 11 24 28 7 WSW 8 6 19 23 13 W 2 7 18 20 15 WNW 5 16 7 22 11 NW 5 7 19 24 15 NNW 1 10 22 18 31 N 3 22 40 39 26 NNE 5 10 45 114 74 NE 0 2 28 73 81 ENE 1 11 30 63 73 E 2 6 22 69 37 ESE 2 5 27 83 92 SE 0 8 24 98 97 SSE 2 3 21 53 61	WINDS FROM 1-3 4-7 8-12 13-18 19-24 >24 S 3 14 20 52 15 3 SSW 3 11 22 20 0 0 SW 6 11 24 28 7 8 WSW 8 6 19 23 13 20 W 2 7 18 20 15 14 WNW 5 16 7 22 11 5 NW 5 7 19 24 15 11 NNW 1 10 22 18 31 20 N 3 22 40 39 26 12 NNE 5 10 45 114 74 32 NE 0 2 28 73 81 24 ENE 1 11 30 63 73 14 E 2 6 22 69 37 5 ESE 2 5 27 83 92 11 SE 0 8 24 98 97 11 SSE 0 8 24 98 97 11 SSE 2 3 21 53 61

Period of Record 01/01/92 @0000 TO 12/31/92 @2300 Stability Class: F HOURS AT WIND SPEED AND DIRECTION

moone mi	WIND	OLDED WID	DIKEC	TON				
,				WIND SE	EED			
SECTOR	WINDS	}						
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	1	9	11	38	30	1	90
NNE	SSW	0	5	5	16	5	0	31
NE	SW	0	11	8	13	0	0	32
ENE	WSW	2	1	2	9	1	0	15
E	W	3	1	1	4	1	0	10
ESE	WNW	1	6	5	2	0	0	14
SE	NW	3	2	6	3	0	0	14
SSE	NNW	1	5	9	7	1	0	23
S	N	2	11	14	20	2	0	49
SSW	NNE	0	8	15	21	6	1	51
SW	NE	3	8	30	31	48	22	142
WSW	ENE	2	7	14	39	53	21	136
W	E	0	15	14	45	32	8	114
WNW	ESE	0	7	22	41	43	14	127
NW	SE	2	5	18	39	52	13	129
NNW	SSE	1	11	11	32	19	4	78
TOTAL		21	112	185	360	293	84	1055

Period of Record 01/01/92 @0000 TO 12/31/92 @2300 Stability Class: G
HOURS AT WIND SPEED AND DIRECTION

WIND SPEED

SECTOR	WINDS		•					
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	3	4	15	16	8	0	46
NNE	SSW	1	12	20	17	3	0	53
NE	SW	1	11	21	20	1	0	54
ENE	WSW	0	5	9	3	0	0	17
E	W	0	6	6	1	0	0	13
ESE	WNW	1	5	9	2	0	0	17
SE	NW	0	3	11	3	0	0	17
SSE	NNW	2	7	3	2	1	0	15
S	N	3	4	16	11	2	0	36
SSW	NNE	2	15	11	18	2	1	49
SW	NE	10	14	14	20	9	5	72
WSW	ENE	3	5	28	26	14	5	81
W	E	6	8	19	18	9	6	66
WNW	ESE	3	8	33	25	9	2	80
NW	SE	3	13	17	39	8	1	81
NNW	SSE	6	7	15	20	6	2	56
TOTAL		44	127	247	241	72	22	753

Period of Record 01/01/92 @0000 TO 12/31/92 @2300 Stability Class: ALL HOURS AT WIND SPEED AND DIRECTION

WIND SPEED

,				MIND OF				
SECTOR	WINDS							
TO	FROM	1-3	4-7	8-12	13-18	19-24	>24	TOTAL
N	S	9	58	104	158	70	10	409
NNE	SSW	9	70	117	116	18	5	335
NE	SW	11	67	171	172	91	67	579
ENE	WSW	15	43	152	185	93	76	564
E	W	9	58	157	131	48	23	426
ESE	WNW	13	72	145	59	27	21	337
SE	NW	12	40	132	65	25	14	288
SSE	NNW	10	48	130	104	48	32	372
S	N	10	55	162	218	90	34	569
SSW	NNE	11	59	130	319	144	71	734
SW	NE	16	44	125	170	168	57	580
WSW	ENE	12	46	138	204	189	60	649
W	${f E}$	11	56	116	202	126	67	578
WNW	ESE	7	35	148	258	266	126	840
NW	SE	6	54	133	310	295	157	955
NNW	SSE	12	40	112	196	131	34	525
TOTAL		173	845	2172	2867	1829	854	8740
HOURS	OF MISSING	3/INVALID	DATA	:	44			

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Changes to the Offsite Dose Calculation Manual:

No changes were made to the ODCM during this time period.

Changes to the Process Control Plan:

The Process Control Plan procedure for Transfer, Solidification, and Dewatering of Solid Wet Waste was modified in October. Valving procedures already used per operator experience but not explicitly specified in the procedure are now identified and controlled by a valve check off.

Effluent Monitors Out of Service Greater than 30 Days:

During the second half of 1992 three instruments were out of service for longer than 30 days:

The Overboard Discharge Monitor was long out of service and was being refurbished during July and August. The instrument was placed into service in August. No overboard discharges occurred during the period from July through August when the instrument was out of service.

The Service Water Rad. Monitor was not declared operable as a result of repeated failures, air binding and biological fouling. The monitor is being evaluated for return to service. Daily discharge samples are collected as required while the monitor is out of service.

The AOG vent monitor was out of service from November until the end of the reporting period due to sample tubing leakage. Tubing repair is scheduled.